CLAIMS

1. (Amended) A nonlinear resistor circuit using a
floating gate MOSFETs, wherein a Λ-shaped nonlinear resistor
circuit using a multi-input floating gate MOSFET and a V-
shaped nonlinear resistor circuit using a multi-input
floating gate MOSFET are connected in parallel therewith and
current of said Λ-shaped nonlinear resistor circuit and
current of said V-shaped nonlinear resistor circuit are
added, thus to combine various N-shaped voltage-current
characteristics, said N-shaped voltage-current
characteristic is continuously changed, and the voltage-
current characteristics approximate to piecewise linear
characteristics of third to seventh orders are realized.

2. (Deleted)

3. (Deleted)

4. (Amended) The nonlinear resistor circuit using the
floating gate MOSFETs according to Claim 1, wherein negative
resistor portions in the voltage-current characteristic of
said Λ-shaped nonlinear resistor circuit and the voltage-
current characteristic of said V-shaped nonlinear resistor
circuit are linear as much as possible, and both the
voltage-current characteristic of said Λ-shaped nonlinear
resistor circuit and the voltage-current characteristic of
said V-shaped nonlinear resistor circuit are moved in

parallel in the left and right directions by a voltage between an input terminal of said Λ-shaped nonlinear resistor circuit and a drain terminal of an N-channel MOSFET and a voltage between an input terminal of said V-shaped nonlinear resistor circuit and a drain terminal of a P-channel MOSFET, thus to combine the characteristic of the third order.

5. (Amended) The nonlinear resistor circuit using the floating gate MOSFETs according to Claim 1, wherein negative resistor portions in the voltage-current characteristic of said Λ-shaped nonlinear resistor circuit and the voltage-current characteristic of said V-shaped nonlinear resistor circuit are linear as much as possible, and both the voltage-current characteristic of said Λ-shaped nonlinear resistor circuit and the voltage-current characteristic of said V-shaped nonlinear resistor circuit are moved in parallel in the left and right directions by a voltage between the ground and a drain terminal of a floating gate P-channel MOSFET of said Λ-shaped nonlinear resistor circuit and a voltage between the ground and a drain terminal of a floating gate N-channel MOSFET of said V-shaped nonlinear resistor circuit, thus to combine the characteristic of the third order.

6. (Amended) The nonlinear resistor circuit using the floating gate MOSFETs according to Claim 1, wherein an

inclination of a negative portion of the voltage-current characteristic of said Λ-shaped nonlinear resistor circuit or the voltage-current characteristic of said V-shaped nonlinear resistor circuit is adjusted to change the inclination of the characteristic, and the voltage-current characteristic of said Λ-shaped nonlinear resistor circuit or the voltage-current characteristic of said V-shaped nonlinear resistor circuit is moved in parallel in the left and right directions by a voltage between an input terminal of said Λ-shaped nonlinear resistor circuit and a drain terminal of an N-channel MOSFET and a voltage between an input terminal of said V-shaped nonlinear resistor circuit and a drain terminal of a P-channel MOSFET, thus to combine the fourth order characteristic.

7. (Amended) The nonlinear resistor circuit using the floating gate MOSFETs according to Claim 1, wherein an inclination of a negative portion of the voltage-current characteristic of said Λ-shaped nonlinear resistor circuit or the voltage-current characteristic of said V-shaped nonlinear resistor circuit is adjusted to change the inclination of the characteristic, and the voltage-current characteristic of said Λ-shaped nonlinear resistor circuit or the voltage-current characteristic of said V-shaped nonlinear resistor circuit is moved in parallel in the left and right directions by a voltage between the ground and a

drain terminal of a floating gate P-channel MOSFET of said Λ-shaped nonlinear resistor circuit and a voltage between the ground and a drain terminal of a floating gate N-channel MOSFET of said V-shaped nonlinear resistor circuit, thus to combine the fourth order characteristic.

8. (Amended) The nonlinear resistor circuit using the floating gate MOSFETs according to Claim 1, wherein inclinations of negative portions of both the voltage-current characteristic of said Λ-shaped nonlinear resistor circuit and the voltage-current characteristic of said V-shaped nonlinear resistor circuit are adjusted to change the inclinations of the characteristics, and both the voltage-current characteristic of said Λ-shaped nonlinear resistor circuit and the voltage-current characteristic of said V-shaped nonlinear resistor circuit are moved in parallel in the left and right directions by a voltage between an input terminal of said Λ-shaped nonlinear resistor circuit and a drain terminal of an N-channel MOSFET and a voltage between an input terminal of said V-shaped nonlinear resistor circuit and a drain terminal of a P-channel MOSFET, thus to combine the fifth order characteristic.

9. (Amended) The nonlinear resistor circuit using the floating gate MOSFETs according to Claim 1, wherein inclinations of negative portions of both the voltage-current characteristic of said Λ-shaped nonlinear resistor

circuit and the voltage-current characteristic of said V-shaped nonlinear resistor circuit are adjusted to change the inclinations of the characteristics, and both the voltage-current characteristic of said Λ-shaped nonlinear resistor circuit and the voltage-current characteristic of said V-shaped nonlinear resistor circuit are moved in parallel in the left and right directions by a voltage between the ground and a drain terminal of a floating gate P-channel MOSFET of said Λ-shaped nonlinear resistor circuit and a voltage between the ground and a drain terminal of a floating gate N-channel MOSFET of said V-shaped nonlinear resistor circuit, thus to combine the fifth order characteristic.

10. (Amended) The nonlinear resistor circuit using the floating gate MOSFETs according to Claim 1, wherein an inclination of a negative portion of the voltage-current characteristic of said Λ-shaped nonlinear resistor circuit or the voltage-current characteristic of said V-shaped nonlinear resistor circuit is adjusted to change the inclination of the characteristic, and both the voltage-current characteristic of said Λ-shaped nonlinear resistor circuit and the voltage-current characteristic of said V-shaped nonlinear resistor circuit are moved in parallel in the lateral axis direction by a voltage between an input terminal of said Λ-shaped nonlinear resistor circuit and a

drain terminal of an N-channel MOSFET and a voltage between an input terminal of said V-shaped nonlinear resistor circuit and a drain terminal of a P-channel MOSFET, thus to combine the sixth order characteristic.

11.   (Amended) The nonlinear resistor circuit using the floating gate MOSFETs according to Claim 1, wherein an inclination of a negative portion of the voltage-current characteristic of said Λ-shaped nonlinear resistor circuit or the voltage-current characteristic of said V-shaped nonlinear resistor circuit is adjusted to change the inclination of the characteristic, and both the voltage-current characteristic of said Λ-shaped nonlinear resistor circuit and the voltage-current characteristic of said V-shaped nonlinear resistor circuit are moved in parallel in the lateral axis direction by a voltage between the ground and a drain terminal of a floating gate P-channel MOSFET of said Λ-shaped nonlinear resistor circuit and a voltage between the ground and a drain terminal of a floating gate N-channel MOSFET of said V-shaped nonlinear resistor circuit, thus to combine the sixth order characteristic.

12.   (Amended) The nonlinear resistor circuit using the floating gate MOSFETs according to Claim 1, wherein inclinations of negative portions of both the voltage-current characteristic of said Λ-shaped nonlinear resistor circuit and the voltage-current characteristic of said V-

shaped nonlinear resistor circuit are adjusted to change the
inclinations of the characteristics, and both the voltage-
current characteristic of said Λ-shaped nonlinear resistor
circuit and the voltage-current characteristic of said V-
shaped nonlinear resistor circuit are moved in parallel in
the lateral axis direction by a voltage between an input
terminal of said Λ-shaped nonlinear resistor circuit and a
drain terminal of an N-channel MOSFET and a voltage between
an input terminal of said V-shaped nonlinear resistor
circuit and a drain terminal of a P-channel MOSFET, thus to
combine the seventh order characteristic.

13.   (Amended) The nonlinear resistor circuit using the
floating gate MOSFETs according to Claim 1, wherein
inclinations of negative portions of both the voltage-
current characteristic of said Λ-shaped nonlinear resistor
circuit and the voltage-current characteristic of said V-
shaped nonlinear resistor circuit are adjusted to change the
inclinations of the characteristics, and both the voltage-
current characteristic of said Λ-shaped nonlinear resistor
circuit and the voltage-current characteristic of said V-
shaped nonlinear resistor circuit are moved in parallel in
the lateral axis direction by a voltage between the ground
and a drain terminal of a floating gate P-channel MOSFET of
said Λ-shaped nonlinear resistor circuit and a voltage
between the ground and a drain terminal of a floating gate

N-channel MOSFET of said V-shaped nonlinear resistor circuit,
thus to combine the seventh order characteristic.